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NOVEMBER 17.

The President, Dr. RUSCHENBERGER, in the chair.

Twenty-three members present.

*Anthers of Ambrosia artemisiæfolia*.—Mr. MEEHAN desired to correct an error into which he had fallen, in some observations on the *Ambrosia artemisiæfolia*, contributed to the Academy's *Proceedings* a few years ago. Among other things, he stated in that paper that there were two classes of anthers in the flowers, one barren, and surmounted by a short horn, the other polleniferous, and hornless. He had been led to re-examine the matter through the kindness of Professor Asa Gray, who had written to him, after his remarks had been quoted in Hooker and Bentham's *Genera Plantarum*, expressing doubts as to the accuracy of the observation. He now found he was wrong. There is but one class of stamens, and all have horns. He expressed regret for the error, believing inaccurate observations the bane of science. He would only say in extenuation that the error was one easily made. The parts are exceedingly small, requiring a strong glass to see them. The small horn is *bent down closely against the back of the stamen*, and does not become erect until the pollen has been discharged. He thus had concluded it did not exist. Then the pollen must be ejected in some way very rapidly after the pollen sacs have burst, and the dry membranous remains so freely mixed with what appeared perfect anthers had misled him. The bursting and emptying by the sacs of their pollen, and the erection of the horn, he thought must take place suddenly and early in the morning, as he had found no change whatever in the various parts of the inflorescence after 9 A. M. He had hoped to be able to give the exact time and manner of these actions, but the approach of winter had destroyed the specimens, and he was unwilling to let the season go over without correcting the error in the particulars named.

*Dimorphism in Apples*.—Mr. THOMAS MEEHAN said that of late years it had been an interesting question what influence was exerted on the character of the fruit immediately by hybridization. He had himself brought to the notice of the Academy, instances which proved in some cases there was an immediate influence, as well as on the progeny of the fertilized fruit. But he believed there was more claimed for this immediate influence than the facts warranted. In the apple there had been many instances in scientific journals of the highest character, in which it was believed that two distinct fruits had combined in one apple by

hybridization. The chief mixtures were generally russets with lighter apples. He exhibited one which had been sent by Mr. J. J. Thomas, of Union Springs, in which the upper half was russet and the lower of some green kind. In this case, however, it was clear that the russet was formed by some element of destruction in the epidermal cells. In the bark of most trees suber cells had in each tree a specific form of development, and were generally very uniform in their conditions of growth. They usually destroyed the bark as they grew, and generally in some one regular direction, and this gave the characteristic fissures to the bark of trees, and not mere mechanical expansion, as was popularly supposed. It was not always regular, however, as in the plane tree it was erratic, and thus the bark peeled off without any regular plan, and in the most unexpected places. The skin of the apple was but modified bark, and in the epidermis were cells subject to the same laws of development as in bark. In the beech only a very thin film was subjected to the destructive agency of the suber cells, changing the color of the young green shoots to an ashen-gray in age, without any deep rifts ever appearing. In the apple, both in the bark and fruit, the cells proceeded in much the same way, erratic sometimes as in the beech, and acting on the thin external membrane as in the beech or plane. The russet appearance followed this action in the apple and pear. Very often it appeared near the stem cavity. Frequently on the same tree there would be large numbers russeted in this way, as well as many without. The variable nature of the russet growth was more frequently seen in the pear than in the apple. He had seen in these kinds in some seasons and places all yellow, the half or more covered with russet in others.

He had never seen the peculiar condition of the parts exhibited in Mr. Thomas's specimen before, but it was evident that all the phenomena pointed to some similar external cause, and that cross fertilization had nothing to do with these dimorphic cases.

Mr. M. also exhibited another specimen similar to the one produced last year, from the tree at Kittaning, Pa., which bore fruit, without the production of calyx, corolla, or stamens. The upper portions of the series of the embryonic leaves which form the fruit, were more free than in that exhibited last year, affording a better illustration of the morphology of the parts.

*Blindness of Salmon.*—Dr. A. G. REED made the following remarks regarding the cause of blindness of the salmon: In the month of August, 1873, I ascended the Tobique River, of New Brunswick, to its head-waters, for the purpose of salmon fishing, and thence descended the Nipisiquit River, where I found the best salmon fishing in the province.

While on the Tobique River my Indian guide captured a large salmon so easily that it attracted my attention, when he told me

it was a blind salmon; and upon examination, I found this fish had various scars on his head, the left eye had sloughed out, the right eye had a cut across it, and a thin film had formed over the eye, causing him to be entirely blind. I learned from the Indians that it often occurred that large salmon became blind, and did not return to the sea with the rest of the fish for feeding, but remained in the deep pools of the river, and eventually starved to death. The Indians have many theories regarding the cause of this blindness, none of which are plausible. During this trip I had several chances of seeing salmon that were either blind in one or both eyes, but did not at that time find out the true cause. But during the past summer, while fishing on the tributaries of the Saguinay River, in Canada, I again saw the same disease presenting itself in the salmon of those streams. I noticed that no small salmon are found in this condition, and that all the blind ones have cuts across the eyes and head, producing scars as if some line or thread had been drawn tightly across the eyeball.

My view of the matter is that the fish in ascending or descending the streams come in contact with gill-nets that are set for the capture of this fine fish for food, which the inhabitants of that region use during their long cold winters. The meshes of the nets are of the proper size to allow a large salmon to pass his head through as far as the eye, while the smaller fish pass the head further through, and thus escape the cut of the fine linen thread across the delicate membranes of the eye.

This cut if deep produces sloughing, but if slight, inflammation and infiltration of the conjunctiva, thereby rendering it opaque.

It is only the large noble fellows that escape capture by these nets, with their heads scarred and their tails slit, showing the fearful struggle they had in clearing themselves of the nets spread for their capture, and living to become blind—never again to return to their feeding grounds, and soon to die of starvation.

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NOVEMBER 24.

The President, Dr. RUSCHENBERGER, in the chair.

Thirty-two members present.

Paul Beck, George Gerry White, James G. Pease, George F. Barker, W. J. Hoffman, M.D., Joseph D. Potts, David E. Dallam, W. W. Jeffries, and Miss Adeline S. Tryon were elected members.